

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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P. Walker
2-3-03

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| Applicant(s): Mahajani et al. | Group Art Unit: 2814 |
| Application No.: 10/079472 | Examiner: Thao X Le |
| Filed: February 19, 2002 | |
| Title: Gate Dielectric Structures for Integrated Circuits and Methods for Making and Using Such Gate Dielectric Structures | FAX RECEIVED JAN 22 2003 TECHNOLOGY CENTER 2800 |
| Attorney Docket No.: 40025.005, (MA-068) | |

Assistant Commissioner for Patents
Washington, D.C. 20231

AMENDMENT AND RESPONSEStatus of Claims:

Claims 1-26 have been rejected under 35 USC 103.

AMENDMENT

Please enter the following amendment and remarks in response to the Office Action of October 22, 2002.

IN THE SPECIFICATION

Please amend paragraph [37], on page 11, as follows. Appendix A contains a marked-up version of this paragraph showing the changes being made.

[37] The gate oxide of the TFT device is made in the invention using substantially the same ISSG process described above (i.e., that described for SONOS

B1
Cont'd

B1
end

devices) except that for TFT devices, the oxide is grown over polysilicon. Thus, the growth rates will be more than the growth rates described above for SONOS devices. Accordingly, lower process temperatures and/or shorter times will be required for TFT devices to obtain a similar oxide thickness as SONOS devices. In one aspect of the invention, the temperature for the ISSG process used to make the gate dielectric for TFT devices can range from about 600 to about 900 degrees Celsius, preferably about 700 to about 850 degrees Celsius, and more preferably about 800 degrees Celsius.

IN THE CLAIMS

Please cancel claims 2, 4, 10, 11, and 16-19 without prejudice. Please amend claims 1, 3, 5, 8-9, and 20-26 as follows. Please add new claims 27-34. All pending claims are provided in clean form, beginning on the next page. Appendix B contains a marked-up version of these claims showing the changes made.

PTO/SB/17 (01-03)

Approved for use through 04/30/2003. OMB 0651-0032

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

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FEE TRANSMITTAL for FY 2003

Effective 01/01/2003. Patent fees are subject to annual revision.

☐ Applicant Claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT (\$144.00)

Complete if Known

| | | |
|----------------------|------------------|------------------------|
| Application Number | 10/079472 | FAX RECEIVED |
| Filing Date | 2/19/2002 | |
| First Named Inventor | Mahajani, et al. | JAN 22 2003 |
| Examiner Name | Thao X. Le | |
| Art Unit | 2814 | TECHNOLOGY CENTER 2800 |
| Attorney Docket No. | MA-068 | |

METHOD OF PAYMENT (check all that apply)

☐ Check ☐ Credit card ☐ Money Order ☐ Other ☐ None
☒ Deposit Account

| | |
|------------------------|----------------------|
| Deposit Account Number | 502302 |
| Deposit Account Name | Matrix Semiconductor |

The Commissioner is authorized to: (check all that apply)

☒ Charge fee(s) indicated below ☒ Credit any overpayments☒ Charge any additional fee(s) during the pendency of this application☐ Charge fee(s) indicated below, except for the filing fee to the above-identified deposit account

FEE CALCULATION

1. BASIC FILING FEE

| Large Entity Fee Code | Large Entity Fee (\$) | Small Entity Fee Code | Small Entity Fee (\$) | Fee Description | Fee Paid |
|-----------------------|-----------------------|-----------------------|-----------------------|------------------------|----------|
| 1001 | 750 | 2001 | 375 | Utility filing fee | |
| 1002 | 330 | 2002 | 165 | Design filing fee | |
| 1003 | 520 | 2003 | 260 | Plant filing fee | |
| 1004 | 750 | 2004 | 375 | Reissue filing fee | |
| 1005 | 160 | 2005 | 80 | Provisional filing fee | |

SUBTOTAL (1) (\$0)

2. EXTRA CLAIM FEES FOR UTILITY AND REISSUE

| | | | | | | | |
|--------------------|------|--------------|---|----------------|-------|----------|--------|
| Total Claims | 20** | Extra Claims | 8 | Fee from below | 18.00 | Fee Paid | 144.00 |
| Independent Claims | 3** | | | | | | |
| Multiple Dependent | | | | | | | |

| Large Entity Fee Code | Large Entity Fee (\$) | Small Entity Fee Code | Small Entity Fee (\$) | Fee Description |
|-----------------------|-----------------------|-----------------------|-----------------------|---|
| 1202 | 18 | 2202 | 9 | Claims in excess of 20 |
| 1201 | 84 | 2201 | 42 | Independent claims in excess of 3 |
| 1203 | 280 | 2203 | 140 | Multiple dependent claim, if not paid |
| 1204 | 84 | 2204 | 42 | **Reissue independent claims over original patent |
| 1205 | 18 | 2205 | 9 | **Reissue claims in excess of 20 and over original patent |

SUBTOTAL (2) (\$144.00)

** or number previously paid, if greater; For Reissues, see above

FEE CALCULATION (continued)

3. ADDITIONAL FEES

| Large Entity Fee Code | Large Entity Fee (\$) | Small Entity Fee Code | Small Entity Fee (\$) | Fee Description | Fee Paid |
|-----------------------|-----------------------|-----------------------|-----------------------|--|----------|
| 1051 | 130 | 2051 | 65 | Surcharge - late filing fee or oath | |
| 1052 | 50 | 2052 | 25 | Surcharge - late provisional filing fee or cover sheet | |
| 1053 | 130 | 1053 | 130 | Non-English specification | |
| 1812 | 2,520 | 1812 | 2,520 | For filing a request for <i>ex parte</i> reexamination | |
| 1804 | 920* | 1804 | 920* | Requesting publication of SIR prior to Examiner action | |
| 1805 | 1,840* | 1805 | 1,840* | Requesting publication of SIR after Examiner action | |
| 1251 | 110 | 2251 | 55 | Extension for reply within first month | |
| 1252 | 410 | 2252 | 205 | Extension for reply within second month | |
| 1253 | 930 | 2253 | 465 | Extension for reply within third month | |
| 1254 | 1,450 | 2254 | 725 | Extension for reply within fourth month | |
| 1255 | 1,970 | 2255 | 985 | Extension for reply within fifth month | |
| 1401 | 320 | 2401 | 160 | Notice of Appeal | |
| 1402 | 320 | 2402 | 160 | Filing a brief in support of an appeal | |
| 1403 | 280 | 2403 | 140 | Request for oral hearing | |
| 1451 | 1,510 | 1451 | 1,510 | Petition to institute a public use proceeding | |
| 1452 | 110 | 2452 | 65 | Petition to revive - unavoidable | |
| 1453 | 1,300 | 2453 | 650 | Petition to revive - unintentional | |
| 1501 | 1,300 | 2501 | 650 | Utility issue fee (or reissue) | |
| 1502 | 470 | 2502 | 235 | Design issue fee | |
| 1503 | 630 | 2503 | 315 | Plant issue fee | |
| 1460 | 130 | 1460 | 130 | Petitions to the Commissioner | |
| 1807 | 50 | 1807 | 50 | Processing fee under 37 CFR 1.17(q) | |
| 1806 | 180 | 1806 | 180 | Submission of Information Disclosure Stmt | |
| 8021 | 40 | 8021 | 40 | Recording each patent assignment per property (times number of properties) | |
| 1809 | 750 | 2809 | 375 | Filing a submission after final rejection (37 CFR § 1.129(a)) | |
| 1810 | 750 | 2810 | 375 | For each additional invention to be examined (37 CFR § 1.129(b)) | |
| 1801 | 750 | 2801 | 375 | Request for Continued Examination (RCE) | |
| 1802 | 900 | 1802 | 900 | Request for expedited examination of a design application | |

Other fee (specify)

*Reduced by Basic Filing Fee Paid

SUBTOTAL (3)

(\$0)

SUBMITTED BY

Complete (if applicable)

| | | | | | |
|-------------------|-------------------|-----------------------------------|---------|-----------|--------------|
| Name (Print/Type) | Pamela A. Squires | Registration No. (Attorney/Agent) | 52246 | Telephone | 408-869-2921 |
| Signature | | Date | 1/22/03 | | |

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

This collection of information is required by 37 CFR 1.17 and 1.27. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 37 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, Washington, DC 20231.

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Matrix Memory

Matrix Semiconductor, Inc.
3230 Scott Boulevard Santa Clara, California 95054
Telephone 408.969.4848 Facsimile 408.969.4849

January 22, 2003

Time: _____
(Santa Clara, California)

TO: Commissioner for Patents
Attn: Thao X. Le
Patent Examining Corps
Facsimile Center
Washington, D.C. 20231

FROM: Pamela J. Squyres

OUR REF: MA-068

TELEPHONE: 408-869-2921 **FAX RECEIVED**

FAX NUMBER 703-308-7722

JAN 22 2003

* Please deliver to Examiner Thao X. Le in Art Unit 2814. *

TECHNOLOGY CENTER 2800

Document(s) Transmitted: **Fax Cover Sheet (1 pg)**
Power of Attorney (1pg)
Statement Under 37 CFR 3.73(b) (1pg)
Fee Transmittal in duplicate (2 pgs)
Amendment and Response to Office Action of 10/22/02 (23 pgs)

Total pages of this transmission, including cover letter: 28 pgs.

If you do NOT receive all of the pages described above, please telephone us at 408-869-2921, or fax us at 408-869-8923.

In re. Patent Application of: Maitreyee Mahajani et al.

Examiner: Thao X. Le

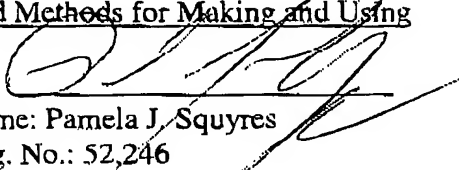
Serial No.: 10/079472

Group Art Unit: 2814

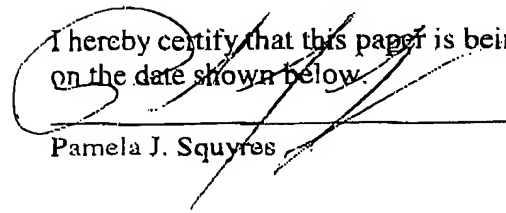
Filed: February 19, 2002

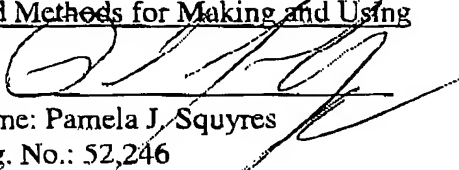
Docket No.: MA-068

Title: Gate Dielectric Structures for Integrated Circuits and Methods for Making and Using Such Gate Dielectric Structures

By: 
Name: Pamela J. Squyres
Reg. No.: 52,246

I hereby certify that this paper is being transmitted by facsimile to the U.S. Patent and Trademark Office on the date shown below.


Pamela J. Squyres


Date of Transmission
1/22/03